

## POLLUTANTS OF CONCERN FOR THE CENTRALIZED WASTE TREATMENT INDUSTRY

As discussed previously, wastewater receipts treated at centralized waste treatment facilities may have significantly different pollutants and pollutant loads depending on the customer and the process generating the waste receipt. In fact, at many CWT facilities, the pollutants and pollutant loads may vary daily and from batch to batch. As a result, it is difficult to characterize "typical" CWT wastewaters. In fact, one of the distinguishing characteristics of CWT wastewaters (as compared to traditional categorical wastewaters) is that there is always the exception to the rule. For example, at one facility, EPA analyzed samples of wastewater received for treatment from a single facility that were obtained during three different, non-consecutive weeks. EPA found that the weekly waste receipts varied from the most concentrated (in terms of metal pollutants) to one of the least concentrated (in terms of metal pollutants).

### METHODOLOGY

### 6.1

EPA determined pollutants of concern for the CWT industry by assessing EPA sampling data only. Industry has provided very little quantitative data on the concentrations of pollutants entering their wastewater treatment systems. For the metals and organics subcategory, EPA collected the data used to determine the pollutants of concern at influent points to the wastewater treatment systems. For the oils subcategory, EPA collected the data following emulsion breaking and/or gravity separation. The pollutant concentrations at these

points are lower than the original waste receipt concentrations as a result of the commingling of a variety of waste streams, and, in the case of the oils subcategory, as a result of pretreatment. In most cases, EPA could not collect samples from individual waste shipments because of physical constraints and excessive analytical costs.

EPA used two different analytical methods to analyze samples for oil and grease during the development of this guideline. EPA analyzed samples collected prior to the 1995 proposal using Method 413.1. This method uses freon and is being phased out. EPA analyzed oil and grease samples collected after the 1995 proposal using the newly proposed EPA Method 1664. Method 1664 is used to measure oil and grease as hexane extractable material (HEM) and to measure silica gel treated-hexane extractable material (SGT-HEM). EPA believes that oil and grease measurements from Method 413.1 and Method 1664 are comparable and has used the data interchangeably.

EPA collected influent sampling data over a limited time span (generally two to five days). The samples represent a snapshot of the receipts accepted for treatment during the time the samples were collected. Because waste receipts may vary significantly from day to day, EPA can't know if, in fact, the data are also representative of waste receipts during any other time period. If EPA had sampled at more facilities or over longer periods of time, EPA would expect to observe a wider range of flows, pollutants, and pollutant concentrations in CWT industry raw wastewater. This has complicated

the selection of pollutants of concern and regulated pollutants, and the estimation of current performance and removals associated with this rulemaking. Historically, in developing categorical limitations and standards, unlike the case for CWT waste receipts, influent wastestreams are generally consistent in strength and nature.

To establish the pollutants of concern, EPA reviewed the analytical data from influent wastewater samples to determine the number of times a pollutant was detected at treatable levels. EPA set treatable levels at ten times the method detection limit to ensure that pollutants detected as only trace amounts would not be selected. For most organic pollutants, the method detection limit is 10 ug/L. Therefore, for most organic parameters, EPA has defined treatable levels as 100 ug/L. For metals pollutants the method detection limits range from 0.2 ug/L to 1000 ug/L. EPA then obtained the initial pollutants of concern listing for each subcategory by establishing which parameters were detected at treatable levels in at least 10 percent of the influent wastewater samples. Ten percent was used to account for the variability of CWT wastewaters. As mentioned previously in Section 2.3.3.2, after the initial two sampling episodes EPA discontinued the analyses for dioxins/furans, pesticides/herbicides, methanol, ethanol, and formaldehyde, and as a result these parameters were not included in the pollutants of concern analysis. Figure 6-1 depicts the methodology EPA used to select pollutants of concern for each subcategory.

Tables 6-1 through 6-3 provide a listing of the pollutants that were determined to be pollutants of concern for each subcategory. These tables list the pollutant name, CAS number, the number of times the pollutant was analyzed, the number of detects, the method detection limit (MDL), the number of detects at treatable levels, and the minimum and maximum

concentration detected. Tables 6-4 through 6-6 provide a listing of the pollutants that were not considered to be pollutants of concern for each subcategory and the reason they were not selected. While EPA generally uses the parameters established as pollutants of concern to estimate pollutant loadings and pollutant removals, EPA only selected some of these parameters for regulation. The regulated pollutants are a subset of the pollutants of concern and are discussed in Chapter 7. Chapter 12 discusses pollutant loading and removal estimates.

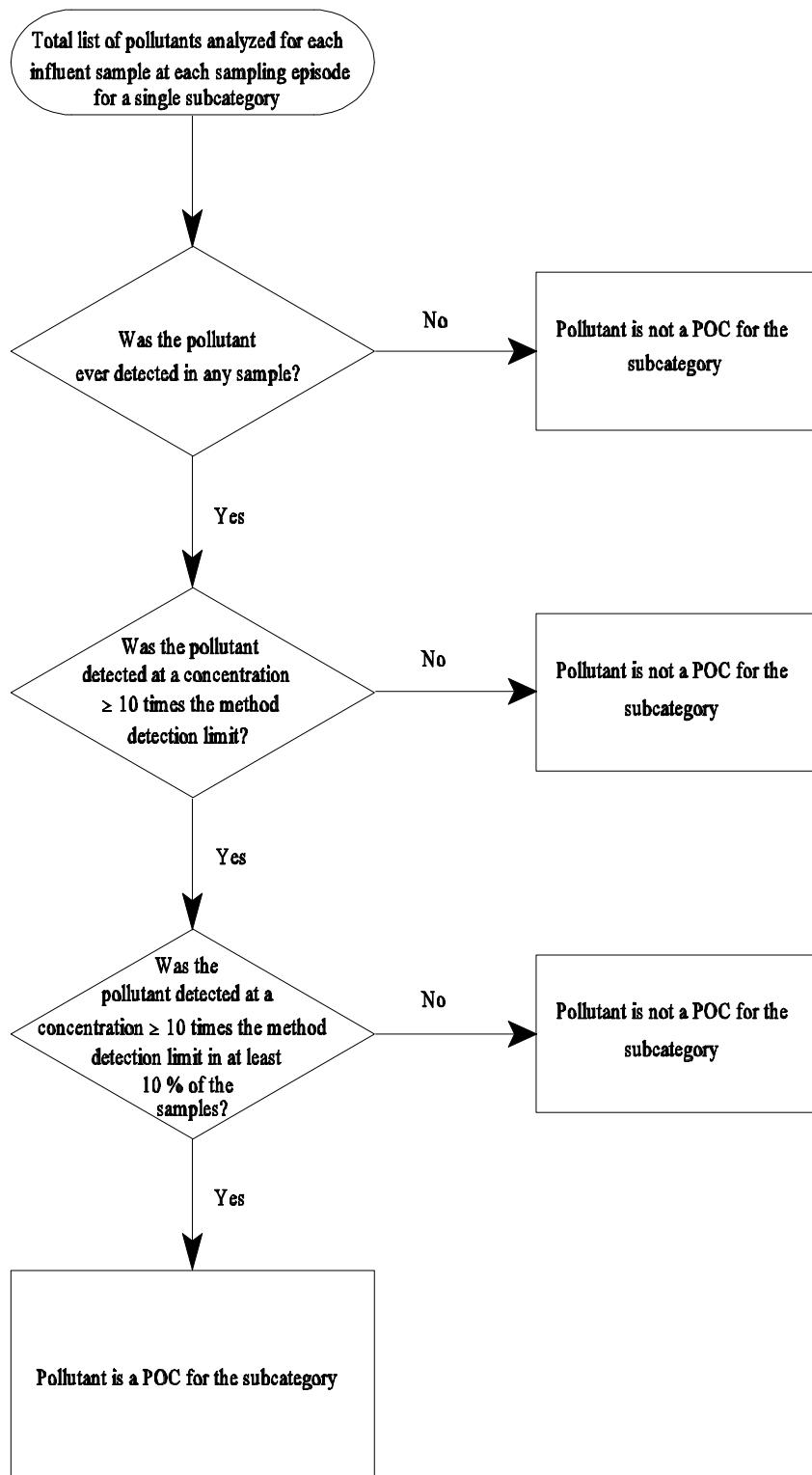


Figure 6-1. Pollutant of Concern Methodology

Table 6-1. Pollutants of Concern for the Metals Subcategory

Pollutant	Cas No.	# Analyzed	# Times	MDL (ug/l)	# Detects >10xMDL	Minimum Conc. (mg/l)	Maximum Conc. (mg/l)
<b>CLASSICALS OR CONVENTIONALS</b>							
Amenable Cyanide	C-025	21	15	20	15	0.00027	2.9000
Ammonia as Nitrogen	7664417	51	51	10	51	0.00040	1.0000
BOD 5-Day	C-002	49	42	2,000	37	0.00400	11.0000
COD	C-004	50	50	5,000	50	0.06800	86.0000
Chloride	16887006	12	12	1,000	12	0.26200	62.0000
Fluoride	16984488	51	51	100	48	0.00012	28.0000
Hexavalent Chromium	18540299	39	28	10	19	0.00000	40.0000
Nitrate/Nitrite	C-005	51	50	50	49	0.00030	40.0000
SGT-HEM	C-037	6	5	5,000	3	0.00630	0.0430
Total Cyanide	57125	26	22	20	22	0.00030	8.4000
TDS	C-010	12	12		12	13.00000	177.0000
TOC	C-012	51	49	1,000	49	0.05500	19.0000
Total Phenols	C-020	46	41	50	10	0.00001	0.0029
Total Phosphorus	14265442	46	45	10	45	0.00030	15.0000
Oil & Grease	C-007	43	37	5,000	15	0.00450	0.1430
Total Sulfide	18496258	46	16	1,000	9	0.00008	1.1000
TSS	C-009	51	51	4,000	50	0.01000	141.0000
<b>METALS</b>							
Aluminum	7429905	51	48	200	47	723.0	2,080,000.0
Antimony	7440360	51	33	20	29	29.0	1,160,000.0
Arsenic	7440382	51	35	10	31	17.0	1,220,000.0
Barium	7440393	51	36	200	8	7.1	596,000.0
Beryllium	7440417	51	25	5	9	1.7	296.0
Boron	7440428	51	50	100	50	1,300.0	1,420,000.0
Cadmium	7440439	51	49	5	49	83.0	19,300,000.0
Calcium	7440702	51	51	5,000	46	6,630.0	9,100,000.0
Chromium	7440473	51	51	10	51	661.0	65,000,000.0
Cobalt	7440484	51	39	50	33	49.0	10,900,000.0
Copper	7440508	51	51	25	51	756.0	40,200,000.0
Gallium	7440553	26	9	500	5	1,125.0	36,350.0
Indium	7440746	25	10	1,000	6	800.0	61,200.0
Iodine	7553562	25	10	1,000	10	23,800.0	537,000.0
Iridium	7439885	25	13	1,000	11	400.0	253,000.0
Iron	7439896	51	51	100	51	3,140.0	7,745,000.0
Lead	7439921	51	50	50	49	208.0	3,220,000.0
Lithium	7439932	26	16	100	12	129.0	795,000.0
Magnesium	7439954	51	44	5,000	27	9,330.0	2,980,000.0
Manganese	7439965	51	50	15	49	84.0	6,480,000.0
Mercury	7439976	51	39	0	31	1.3	3,100.0
Molybdenum	7439987	51	51	10	50	14.0	1,390,000.0
Neodymium	7440008	24	7	500	3	480.0	58,400.0
Nickel	7440020	51	51	40	51	6,190.0	2,460,000.0
Niobium	7440031	26	6	1,000	3	600.0	57,300.0
Osmium	7440042	24	11	100	4	149.0	21,800.0
Phosphorus	7723140	25	21	1,000	19	1,730.0	2,550,000.0
Potassium	7440097	26	25	1,000	25	15,100.0	9,720,000.0
Selenium	7782492	51	24	5	18	10.0	11,800.0
Silicon	7440213	26	24	100	22	111.0	1,330,000.0
Silver	7440224	51	42	10	39	13.0	130,000.0
Sodium	7440235	51	51	5,000	51	469,500.0	77,700,000.0

Table 6-1. Pollutants of Concern for the Metals Subcategory

Pollutant	Cas No.	# Analyzed	# Times	MDL (ug/l)	# Detects >10xMDL	Minimum Conc.	Maximum Conc.
Strontium	7440246	26	17	100	12	202.0	16,300.0
Sulfur	7704349	25	25	1,000	25	157,000.0	33,300,000.0
Tantalum	7440257	24	7	500	3	1,270.0	20,000.0
Tellurium	13494809	24	4	1,000	3	11,700.0	182,000.0
Thallium	7440280	51	17	10	11	14.0	275,000.0
Tin	7440315	51	44	30	43	145.0	15,100,000.0
Titanium	7440326	51	42	5	40	36.0	7,500,000.0
Vanadium	7440622	51	31	50	22	22.0	364,000.0
Yttrium	7440655	51	38	5	29	3.0	900.0
Zinc	7440666	51	50	20	50	2,512.0	16,400,000.0
Zirconium	7440677	26	11	100	5	200.0	4,860.0
<b>ORGANICS</b>						(ug/l)	(ug/l)
Benzoic Acid	65850	13	13	50	12	193.0	36,756.0
Benzyl Alcohol	100516	13	5	10	4	13.0	7,929.0
Bis(2-Ethylhexyl)Phthalate	117817	13	7	10	6	18.0	1,063.0
Bromodichloromethane	75274	13	3	10	2	90.0	704.0
Carbon Disulfide	75150	13	2	10	2	186.0	449.0
Chloroform	67663	13	5	10	3	161.0	731.0
Dibromochloromethane	124481	13	3	10	3	105.0	723.0
Hexanoic Acid	142621	13	7	10	6	99.0	1,256.0
Methylene Chloride	75092	13	11	10	8	11.0	734.0
N-Nitrosomorpholine	59892	13	3	10	2	50.0	167.0
N,N-Dimethylformamide	68122	13	5	10	3	126.0	301.0
Pyridine	110861	13	5	10	3	140.0	1,684.0
Tribromomethane	75252	13	3	10	2	72.0	338.0
Trichloroethene	79016	13	4	10	3	122.0	360.0
Tripropylene glycol Methyl Ether	20324338	13	3	99	2	147.0	3,212.0
2-Butanone	78933	13	4	50	3	65.0	7,826.0
2-Propanone	67641	13	13	50	11	105.0	54,083.0

Table 6-2. Pollutants of Concern for the Oils Subcategory

Pollutant	Cas No.	# Times Analyzed	# Detects	MDL (ug/l)	# Detects >10 x MDL	Minimum Conc.	Maximum Conc.
<b>CLASSICALS OR CONVENTIONALS</b>							
Amenable Cyanide	C-025	3	3	20	1	0.00003	0.00025
Ammonia as Nitrogen	7664417	24	24	10	24	0.02000	1.90000
BOD 5-Day	C-002	19	19	2,000	19	0.50000	26.00000
BOD	C-003	9	9	2,000	9	3.60000	20.00000
COD	C-004	28	28	5,000	28	0.00140	120.00000
Chloride	16887006	14	14	1,000	14	0.01900	6.20000
Fluoride	16984488	24	23	100	19	0.00012	0.33000
Nitrate/Nitrite	C-005	24	23	50	23	0.00050	0.10300
SGT-HEM	C-037	14	14	5,000	14	0.35400	3.70000
Total Cyanide	57125	13	12	20	5	0.00002	0.00098
TDS	C-010	18	18		18	1.30000	33.00000
TOC	C-012	28	28	1,000	28	0.29800	157.00000
Total Phenols	C-020	24	24	50	24	0.00280	0.18500
Total Phosphorus	14265442	24	24	10	24	0.00065	19.00000
Oil & Grease	C-007	28	28	5,000	28	0.03800	180.00000
TSS	C-009	28	28	4,000	26	0.03400	22.00000
<b>METALS</b>							
Aluminum	7429905	28	26	200	22	213.0	192,580.0
Antimony	7440360	28	20	20	7	27.0	1,670.0
Arsenic	7440382	28	26	10	18	46.0	9,170.0
Barium	7440393	28	28	200	11	33.0	7,049.0
Beryllium	7440417	28	7	5	3	0.8	113.0
Boron	7440428	28	28	100	28	2,170.0	1,710,000.0
Cadmium	7440439	28	22	5	19	8.6	498.0
Calcium	7440702	28	28	5,000	23	27,700.0	572,750.0
Chromium	7440473	28	28	10	19	9.2	7,178.0
Cobalt	7440484	28	18	50	14	8.5	116,000.0
Copper	7440508	28	27	25	21	11.0	80,482.0
Germanium	7440564	19	2	500	2	10,250.0	12,360.0
Iron	7439896	28	28	100	27	494.0	630,000.0
Lead	7439921	28	27	50	18	34.0	21,725.0
Lutetium	7439943	19	3	100	3	1,165.0	1,315.0
Magnesium	7439954	28	28	5,000	17	4,910.0	753,000.0
Manganese	7439965	28	28	15	28	535.0	44,500.0
Mercury	7439976	28	20	0	14	0.3	56.0
Molybdenum	7439987	28	24	10	23	15.0	12,400.0
Nickel	7440020	28	27	40	18	77.0	62,800.0
Phosphorus	7723140	17	17	1,000	16	4,033.0	239,000.0
Potassium	7440097	19	19	1,000	19	23,550.0	2,880,000.0
Selenium	7782492	28	15	5	12	11.0	1,000.0
Silicon	7440213	19	19	100	19	1,862.0	87,920.0
Silver	7440224	28	15	10	3	8.0	7,740.0
Sodium	7440235	28	27	5,000	27	219,000.0	11,100,000.0
Strontium	7440246	19	13	100	8	128.0	3,470.0
Sulfur	7704349	17	17	1,000	17	90,600.0	3,712,000.0
Tin	7440315	28	16	30	13	127.0	6,216.0
Titanium	7440326	28	16	5	14	29.0	1,407.0
Vanadium	7440622	28	17	50	3	14.0	2,000.0
Zinc	7440666	28	28	20	25	34.0	94,543.0
<b>ORGANICS</b>							
Acenaphthene	83329	28	6	10	6	105.0	13,418.0

Table 6-2. Pollutants of Concern for the Oils Subcategory

Pollutant	Cas No.	# Times Analyzed	# Detects	MDL (ug/l)	# Detects >10 x MDL	Minimum Conc.	Maximum Conc.
Alpha-Terpineol	98555	28	10	10	8	57.0	2,245.0
Aniline	62533	28	5	10	4	142.0	367.0
Anthracene	120127	28	10	10	10	110.0	18,951.0
Benzene	71432	28	28	10	24	70.0	20,425.0
Benzo(a)anthracene	56553	28	11	10	8	67.0	6,303.0
Benzo(a)pyrene	50328	28	4	10	3	65.0	6,670.0
Benzo(b)fluoranthene	205992	28	6	10	5	38.0	5,752.0
Benzo(k)fluoranthene	207089	28	4	10	3	38.0	5,752.0
Benzoic Acid	65850	28	24	50	24	3,458.0	163,050.0
Benzyl Alcohol	100516	28	7	10	3	40.0	783.0
Biphenyl	92524	28	15	10	11	36.0	10,171.0
Bis(2-Ethylhexyl)Phthalate	117817	28	13	10	9	33.0	838,450.0
Butyl Benzyl Phthalate	85687	28	6	10	4	118.0	49,069.0
Carbazole	86748	28	8	20	5	48.0	1,459.0
Carbon Disulfide	75150	28	14	10	6	11.0	2,335.0
Chlorobenzene	108907	28	11	10	6	12.0	326.0
Chloroform	67663	28	12	10	12	160.0	1,828.0
Chrysene	218019	28	11	10	9	88.0	8,879.0
Di-N-Butyl Phthalate	84742	28	4	10	3	104.0	1,262.0
Dibenzofuran	132649	28	5	10	4	117.0	13,786.0
Dibenzothiophene	132650	28	9	10	9	128.0	5,448.0
Diethyl Phthalate	84662	28	10	10	10	145.0	9,309.0
Diphenyl Ether	101848	28	7	10	5	149.0	13,751.0
Ethylbenzene	100414	28	28	10	25	14.0	18,579.0
Fluoranthene	206440	28	13	10	12	47.0	28,873.0
Fluorene	86737	28	9	10	6	73.0	15,756.0
Hexanoic Acid	142621	28	22	10	21	56.0	90,080.0
M-Xylene	108383	28	23	10	22	24.0	32,639.0
Methylene Chloride	75092	28	25	10	16	13.0	10,524.0
N-Decane	124185	28	24	10	22	62.0	579,220.0
N-Docosane	629970	28	18	10	14	17.0	15,354.0
N-Dodecane	112403	28	24	10	24	125.0	472,570.0
N-Eicosane	112958	28	26	10	23	58.0	319,080.0
N-Hexacosane	630013	28	9	10	6	16.0	9,561.0
N-Hexadecane	544763	28	26	10	26	160.0	1,367,970.0
N-Octadecane	593453	28	25	10	22	47.0	901,920.0
N-Tetracosane	646311	28	10	10	4	18.0	10,289.0
N-Tetradecane	629594	28	26	10	24	78.0	2,560,460.0
N,N-Dimethylformamide	68122	28	5	10	3	83.0	803.0
Naphthalene	91203	28	25	10	23	152.0	53,949.0
O+P Xylene	136777612	28	23	10	18	14.0	16,584.0
O-Cresol	95487	28	11	10	10	142.0	8,273.0
P-Cresol	106445	28	18	10	18	220.0	2,382.0
P-Cymene	99876	28	6	10	6	232.0	4,452.0
Pentamethylbenzene	700129	28	7	10	4	116.0	11,186.0
Phenanthrene	85018	28	18	10	14	12.0	49,016.0
Phenol	108952	28	25	10	23	1,351.0	48,640.0
Pyrene	129000	28	12	10	12	113.0	22,763.0
Pyridine	110861	28	9	10	6	14.0	1,280.0
Styrene	100425	28	5	10	5	289.0	843.0
Tetrachloroethene	127184	28	19	10	18	24.0	12,789.0
Toluene	108883	28	28	10	26	51.0	99,209.0

Table 6-2. Pollutants of Concern for the Oils Subcategory

Pollutant	Cas No.	# Times Analyzed	# Detects	MDL (ug/l)	# Detects >10 x MDL	Minimum Conc.	Maximum Conc.
Trichloroethene	79016	28	15	10	9	18.0	7,125.0
Tripropylene glycol Methyl Ether	20324338	28	11	99	9	1,495.0	383,151.0
1-Methylfluorene	1730376	28	8	10	6	42.0	5,803.0
1-Methylphenanthrene	832699	28	10	10	8	92.0	7,111.0
1,1-Dichloroethene	75354	28	7	10	6	11.0	1,968.0
1,1,1-Trichloroethane	71556	28	23	10	19	10.0	14,455.0
1,2-Dichloroethane	107062	28	12	10	9	14.0	713.0
1,2,4-Trichlorobenzene	120821	28	8	10	8	359.0	18,899.0
1,4-Dichlorobenzene	106467	28	7	10	7	454.0	2,334.0
1,4-Dioxane	123911	28	3	10	3	189.0	1,323.0
2-Butanone	78933	28	26	50	24	57.0	178,748.0
2-Methylnaphthalene	91576	28	22	10	16	80.0	46,108.0
2-Phenylnaphthalene	612942	28	4	10	3	30.0	543.0
2-Propanone	67641	28	27	50	27	974.0	2,099,340.0
2,3-Benzofluorene	243174	28	6	10	5	162.0	2,755.0
2,4-Dimethylphenol	105679	28	10	10	7	76.0	2,171.0
3,6-Dimethylphenanthrene	1576676	28	5	10	5	114.0	2,762.0
4-Chloro-3-Methylphenol	59507	28	16	10	14	460.0	83,825.0
4-Methyl-2-Pentanone	108101	28	22	50	14	199.0	20,489.0

Table 6-3. Pollutants of Concern for the Organics Subcategory

Pollutant	Cas No.	# Times Analyzed	# Detects	MDL (ug/L)	# Detects >10 x MDL	Minimum Conc.	Maximum Conc.
<b>CLASSICALS OR CONVENTIONALS</b>							
Amenable Cyanide	C-025	5	4	20	3	0.00014	0.00620
Ammonia as Nitrogen	7664417	5	5	10	5	0.08300	2.40000
BOD 5-Day	C-002	5	5	2,000	5	0.79000	7.60000
COD	C-004	5	5	5,000	5	1.40000	11.00000
Fluoride	16984488	5	5	100	2	0.00060	0.00200
Nitrate/Nitrite	C-005	5	4	50	4	0.10000	0.34000
Total Cyanide	57125	5	5	20	5	0.00080	0.00780
TOC	C-012	5	5	1,000	5	0.51000	3.80000
Oil & Grease	C-007	5	5	5,000	1	0.00220	0.04800
Total Sulfide	18496258	5	3	1,000	2	0.00400	0.02400
TSS	C-009	5	5	4,000	4	0.03300	3.70000
<b>METALS</b>							
Aluminum	7429905	5	5	200	4	148.0	7,660.0
Antimony	7440360	5	4	20	3	146.0	1,540.0
Arsenic	7440382	5	5	10	1	8.3	152.0
Barium	7440393	5	5	200	2	1,030.0	136,000.0
Boron	7440428	5	5	100	5	2,950.0	4,320.0
Calcium	7440702	5	5	5,000	5	1,025,000.0	1,410,000.0
Chromium	7440473	5	4	10	2	63.0	274.0
Cobalt	7440484	5	4	50	3	253.0	731.0
Copper	7440508	5	5	25	4	7.0	2,690.0
Iodine	7553562	4	4	1,000	1	3,800.0	15,100.0
Iron	7439896	5	5	100	5	2,360.0	6,430.0
Lead	7439921	5	4	50	1	109.0	687.0
Lithium	7439932	5	5	100	5	1,100.0	18,750.0
Manganese	7439965	5	5	15	5	179.0	513.0
Molybdenum	7439987	5	5	10	4	33.0	6,950.0
Nickel	7440020	5	5	40	4	55.0	2,610.0
Phosphorus	7723140	4	4	1,000	1	3,000.0	15,900.0
Potassium	7440097	5	5	1,000	5	383,000.0	1,240,000.0
Silicon	7440213	5	5	100	5	1,500.0	3,600.0
Sodium	7440235	5	5	5,000	5	2,470,000.0	6,390,000.0
Strontium	7440246	5	5	100	5	3,900.0	14,000.0
Sulfur	7704349	5	5	1,000	5	12,800.0	1,990,000.0
Tin	7440315	5	4	30	2	200.0	2,530.0
Titanium	7440326	5	5	5	1	9.0	64.0
Zinc	7440666	5	5	20	4	40.0	1,210.0
<b>ORGANICS</b>							
Acetophenone	98862	5	4	10	4	336.0	739.0
Aniline	62533	5	2	10	2	178.0	392.0
Benzene	71432	5	5	10	3	31.0	179.0
Benzoic Acid	65850	5	2	50	2	5,649.0	15,760.0
Bromodichloromethane	75274	5	5	10	1	26.0	197.0
Carbon Disulfide	75150	5	4	10	1	14.0	1,147.0
Chlorobenzene	108907	5	4	10	1	70.0	101.0
Chloroform	67663	5	4	10	4	5,224.0	32,301.0
Diethyl Ether	60297	5	4		4	182.0	211.5
Dimethyl Sulfone	67710	5	3	10	3	315.0	892.0
Ethane, Pentachloro-	76017	5	2	20	1	79.0	135.0
Ethylenethiourea	96457	5	2	20	2	8,306.0	9,655.0
Hexachloroethane	67721	5	2	10	2	75.0	101.0
Hexanoic Acid	142621	5	3	10	3	1,111.0	4,963.0

Table 6-3. Pollutants of Concern for the Organics Subcategory

Pollutant	Cas No.	# Times Analyzed	# Detects	MDL (ug/L)	# Detects >10 x MDL	Minimum Conc.	Maximum Conc.
Isophorone	78591	5	2	10	1	60.0	141.0
M-Xylene	108383	5	5	10	1	45.0	310.0
Methylene Chloride	75092	5	4	10	4	2,596.0	87,256.0
N,N-Dimethylformamide	68122	5	3	10	2	23.0	225.0
O+P Xylene	136777612	5	5	10	1	13.0	113.0
O-Cresol	95487	5	4	10	4	7,162.0	14,313.0
P-Cresol	106445	5	4	10	4	220.0	911.0
Pentachlorophenol	87865	5	5	50	4	25.0	677.0
Phenol	108952	5	4	10	4	483.0	9,491.0
Pyridine	110861	5	5	10	4	29.0	444.0
Tetrachloroethene	127184	5	4	10	4	2,235.0	19,496.0
Tetrachloromethane	56235	5	5	10	5	1,862.0	16,126.0
Toluene	108883	5	5	10	5	148.0	2,053.0
Trans-1,2-Dichloroethene	156605	5	5	10	5	1,171.0	5,148.0
Trichloroethene	79016	5	4	10	4	3,551.0	23,649.0
Vinyl Chloride	75014	5	5	10	5	290.0	1,226.0
1,1-Dichloroethane	75343	5	5	10	2	23.0	108.0
1,1-Dichloroethene	75354	5	5	10	5	112.0	461.0
1,1,1-Trichloroethane	71556	5	5	10	4	74.0	320.0
1,1,1,2-Tetrachloroethane	630206	5	5	10	5	249.0	2,573.0
1,1,2-Trichloroethane	79005	5	5	10	5	776.0	6,781.0
1,1,2,2-Tetrachloroethane	79345	5	1	10	1	8,602.0	8,602.0
1,2-Dibromoethane	106934	5	5	10	5	297.0	6,094.0
1,2-Dichlorobenzene	95501	5	1	10	1	479.0	479.0
1,2-Dichloroethane	107062	5	4	10	4	855.0	5,748.0
1,2,3-Trichloropropane	96184	5	5	10	4	100.0	839.0
1,3-Dichloropropane	142289	5	1	10	1	286.0	286.0
2-Butanone	78933	5	5	50	5	894.0	5,063.0
2-Picoline	109068	5	3		2	54.0	187.0
2-Propanone	67641	5	5	50	5	1,215.0	12,435.0
2,3-Dichloroaniline	608275	5	3	10	3	109.0	636.0
2,3,4,6-Tetrachlorophenol	58902	5	5	20	5	594.0	2,698.0
2,4-Dimethylphenol	105679	5	1	10	1	683.0	683.0
2,4,5-Trichlorophenol	95954	5	5	10	4	50.0	289.0
2,4,6-Trichlorophenol	88062	5	5	10	4	50.0	546.0
3,4,5-Trichlorocatechol	56961207	5	2	1	1	0.002	0.050
3,4-Dichlorophenol	95772	5	4	1	4	0.070	0.470
3,4,6-Trichloroguaiacol	60712449	5	3	1	1	0.007	0.020
3,5-Dichlorophenol	591355	5	3	1	3	0.040	0.170
3,6-Dichlorocatechol	3938167	5	1	1	1	0.010	0.010
4-Chlorophenol	106489	5	1	1	1	7.800	7.800
4-Methyl-2-Pantanone	108101	5	5	50	4	290.000	4,038.000
4,5-Dichloroguaiacol	2460493	5	1	1	1	0.010	0.010
4,5,6-Trichloroguaiacol	2668248	5	2	1	1	0.004	0.060
5-Chloroguaiacol	3743235	5	1	1	1	2.400	2.400
6-Chlorovanillin	18268763	5	1	1	1	0.040	0.040

Table 6-4. Pollutants Not Selected as Pollutants of Concern for the Metals Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
<b>METALS</b>				
Bismuth	7440699		X	
Cerium	7440451		X	
Erbium	7440520			X
Europium	7440531		X	
Gadolinium	7440542			X
Germanium	7440564		X	
Gold	7440575			X
Hafnium	7440586		X	
Holmium	7440600	X		
Lanthanum	7439910			X
Lutetium	7439943		X	
Palladium	7440053			X
Platinum	7440064		X	
Praseodymium	7440100			X
Rhenium	7440155		X	
Rhodium	7440166	X		
Ruthenium	7440188			X
Samarium	7440199		X	
Scandium	7440202		X	
Terbium	7440279	X		
Thorium	7440291		X	
Thulium	7440304	X		
Tungsten	7440337			X
Uranium	7440611		X	
Ytterbium	7440644		X	
Organics				
Acenaphthene	83329	X		
Acenaphthylene	208968	X		
Acetophenone	98862		X	
Acrylonitrile	107131	X		
Adsorbable Organic Halides	59473040		X	
Alpha-Terpineol	98555		X	
Aniline	62533		X	
Aniline, 2,4,5-Trimethyl	137177	X		
Anthracene	120127	X		
Aramite	140578	X		
Benzathrone	82053	X		
Benzene	71432	X		
Benzenethiol	108985	X		
Benzidine	92875	X		
Benzo(a)anthracene	56553	X		
Benzo(a)pyrene	50328	X		
Benzo(b)fluoranthene	205992	X		
Benzo(ghi)perylene	191242	X		
Benzo(k)fluoranthene	207089	X		
Benzonitrile, 3,5-Dibromo-4-Hydroxy-	1689845	X		
Beta-Naphthylamine	91598	X		
Biphenyl	92524		X	
Biphenyl, 4-Nitro	92933	X		
Bis(2-Chloroethoxy) Methane	111911	X		
Bis(2-Chloroethyl) Ether	111444	X		
Bis(2-Chloroisopropyl) Ether	108601	X		
Bromomethane	74839	X		
Butyl Benzyl Phthalate	85687	X		
Carbazole	86748	X		
Chloroacetonitrile	107142	X		

Table 6-4. Pollutants Not Selected as Pollutants of Concern for the Metals Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
Chlorobenzene	108907	X		
Chloroethane	75003	X		
Chloromethane	74873	X		
Chrysene	218019		X	
Cis-1,3-Dichloropropene	10061015	X		
Crotonaldehyde	4170303	X		
Crotoxyphos	7700176	X		
Di-N-Butyl Phthalate	84742	X		
Di-N-Octyl Phthalate	117840	X		
Di-N-Propylnitrosamine	621647	X		
Dibenzo(a,h)anthracene	53703	X		
Dibenzofuran	132649		X	
Dibenzothiophene	132650	X		
Dibromomethane	74953	X		
Diethyl Ether	60297		X	
Diethyl Phthalate	84662	X		
Dimethyl Phthalate	131113	X		
Dimethyl Sulfone	67710		X	
Diphenyl Ether	101848	X		
Diphenylamine	122394	X		
Diphenyldisulfide	882337	X		
Ethane, Pentachloro-	76017	X		
Ethyl Cyanide	107120	X		
Ethyl Methacrylate	97632	X		
Ethyl Methanesulfonate	62500	X		
Ethylbenzene	100414		X	
Ethylenethiourea	96457	X		
Fluoranthene	206440		X	
Fluorene	86737		X	
Hexachlorobenzene	118741	X		
Hexachlorobutadiene	87683	X		
Hexachlorocyclopentadiene	77474	X		
Hexachloroethane	67721	X		
Hexachloropropene	1888717	X		
Indeno(1,2,3-CD)pyrene	193395	X		
Iodomethane	74884	X		
Isobutyl Alcohol	78831	X		
Isophorone	78591		X	
Isosafrole	120581	X		
Longifolene	475207	X		
M-Xylene	108383		X	
Malachite Green	569642	X		
Mestranol	72333	X		
Methapyrilene	91805	X		
Methyl Methacrylate	80626	X		
Methyl Methanesulfonate	66273	X		
N-Decane	124185		X	
N-Docosane	629970		X	
N-Dodecane	112403		X	
N-Eicosane	112958		X	
N-Hexacosane	630013		X	
N-Hexadecane	544763		X	
N-Nitrosodi-N-Butylamine	924163	X		
N-Nitrosodiethylamine	55185		X	
N-Nitrosodimethylamine	62759		X	
N-Nitrosodiphenylamine	86306	X		
N-Nitrosomethylalkylamine	10595956	X		

Table 6-4. Pollutants Not Selected as Pollutants of Concern for the Metals Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
N-Nitrosomethylphenylamine	614006	X		
N-Nitrosopiperidine	100754	X		
N-Octacosane	630024		X	
N-Octadecane	593453		X	
N-Tetracosane	646311		X	
N-Tetradecane	629594		X	
N-Triacontane	638686		X	
Naphthalene	91203		X	
Nitrobenzene	98953		X	
O+P Xylene	136777612		X	
O-Anisidine	90040	X		
O-Cresol	95487	X		
O-Toluidine	95534	X		
O-Toluidine, 5-Chloro-	95794	X		
P-Chloroaniline	106478	X		
P-Cresol	106445	X		
P-Cymene	99876	X		
P-Dimethylaminoazobenzene	60117	X		
P-Nitroaniline	100016	X		
Pentachlorobenzene	608935	X		
Pentachlorophenol	87865			X
Pentamethylbenzene	700129	X		
Perylene	198550	X		
Phenacetin	62442	X		
Phenanthrene	85018		X	
Phenol	108952		X	
Phenol, 2-Methyl-4,6-Dinitro-	534521	X		
Phenothiazine	92842	X		
Pronamide	23950585	X		
Pyrene	129000	X		
Resorcinol	108463	X		
Safrole	94597	X		
Squalene	7683649	X		
Styrene	100425	X		
Tetrachloroethene	127184	X		
Tetrachloromethane	56235	X		
Thianaphthene	95158	X		
Thioacetamide	62555	X		
Thioxanthe-9-One	492228	X		
Toluene	108883		X	
Toluene, 2,4-Diamino-	95807	X		
Trans-1,2-Dichloroethene	156605	X		
Trans-1,3-Dichloropropene	10061026	X		
Trans-1,4-Dichloro-2-Butene	110576	X		
Trichlorofluoromethane	75694	X		
Triphenylene	217594	X		
Vinyl Acetate	108054	X		
Vinyl Chloride	75014	X		
1-Bromo-2-Chlorobenzene	694804	X		
1-Bromo-3-Chlorobenzene	108372	X		
1-Chloro-3-Nitrobenzene	121733	X		
1-Methylfluorene	1730376	X		
1-Methylphenanthrene	832699	X		
1-Naphthylamine	134327	X		
1-Phenylnaphthalene	605027	X		
1,1-Dichloroethane	75343	X		
1,1-Dichloroethene	75354	X		

Table 6-4. Pollutants Not Selected as Pollutants of Concern for the Metals Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
1,1,1-Trichloroethane	71556	X		
1,1,1,2-Tetrachloroethane	630206	X		
1,1,2-Trichloroethane	79005	X		
1,1,2,2-Tetrachloroethane	79345	X		
1,2-Dibromo-3-Chloropropane	96128	X		
1,2-Dibromoethane	106934	X		
1,2-Dichlorobenzene	95501		X	
1,2-Dichloroethane	107062		X	
1,2-Dichloropropane	78875	X		
1,2-Diphenylhydrazine	122667	X		
1,2,3-Trichlorobenzene	87616	X		
1,2,3-Trichloropropane	96184	X		
1,2,3-Trimethoxybenzene	634366	X		
1,2,4-Trichlorobenzene	120821	X		
1,2,4,5-Tetrachlorobenzene	95943	X		
1,2,3,4-Diepoxybutane	1464535	X		
1,3-Butadiene, 2-Chloro	126998	X		
1,3-Dichloro-2-Propanol	96231	X		
1,3-Dichlorobenzene	541731	X		
1,3-Dichloropropane	142289	X		
1,3,5-Trithiane	291214	X		
1,4-Dichlorobenzene	106467	X		
1,4-Dinitrobenzene	100254	X		
1,4-Dioxane	123911	X		
1,4-Naphthoquinone	130154	X		
1,5-Naphthalenediamine	2243621	X		
2-(Methylthio)Benzothiazole	615225	X		
2-Chloroethylvinyl Ether	110758	X		
2-Chloronaphthalene	91587	X		
2-Chlorophenol	95578		X	
2-Hexanone	591786	X		
2-Isopropylnatphthalene	2027170	X		
2-Methylbenzothioazole	120752	X		
2-Methylnaphthalene	91576	X		
2-Nitroaniline	88744	X		
2-Nitrophenol	88755		X	
2-Phenylnaphthalene	612942	X		
2-Picoline	109068		X	
2-Propen-1-Ol	107186	X		
2-Propenal	107028	X		
2-Methyl-2-Propenenitrile	126987	X		
2,3-Benzofluorene	243174	X		
2,3-Dichloroaniline	608275	X		
2,3-Dichloronitrobenzene	3209221	X		
2,3,4,6-Tetrachlorophenol	58902	X		
2,3,6-Trichlorophenol	933755	X		
2,4-Dichlorophenol	120832	X		
2,4-Dimethylphenol	105679	X		
2,4-Dinitrophenol	51285			X
2,4-Dinitrotoluene	121142	X		
2,4,5-Trichlorophenol	95954	X		
2,4,6-Trichlorophenol	88062	X		
2,6-Di-Tert-Butyl-P-Benzoquinone	719222	X		
2,6-Dichloro-4-Nitroaniline	99309	X		
2,6-Dichlorophenol	87650		X	
2,6-Dinitrotoluene	606202	X		
3-Chloropropene	107051	X		

Table 6-4. Pollutants Not Selected as Pollutants of Concern for the Metals Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
3-Methylcholanthrene	56495	X		
3-Nitroaniline	99092	X		
3,3'-Dichlorobenzidine	91941	X		
3,3'-Dimethoxybenzidine	119904	X		
3,6-Dimethylphenanthrene	1576676	X		
4-Aminobiphenyl	92671	X		
4-Bromophenyl Phenyl Ether	101553	X		
4-Chloro-2-Nitroaniline	89634	X		
4-Chloro-3-Methylphenol	59507	X		
4-Chlorophenylphenyl Ether	7005723	X		
4-Methyl-2-Pentanone	108101		X	
4-Nitrophenol	100027		X	
4,4-Methylene-Bis(2-Chloroaniline)	101144	X		
4,5-Methylene-Phenanthrene	203645	X		
5-Nitro-O-Toluidine	99558	X		
7,12-Dimethylbenz(a)anthracene	57976	X		

Table 6-5. Pollutants Not Selected as Pollutants of Concern for the Oils Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
<b>CLASSICALS OR CONVENTIONALS</b>				
Hexavalent Chromium	18540299			X
Total Sulfide	18496258		X	
<b>METALS</b>				
Bismuth	7440699		X	
Cerium	7440451		X	
Dysprosium	7429916	X		
Erbium	7440520	X		
Europium	7440531	X		
Gadolinium	7440542	X		
Gallium	7440553	X		
Gold	7440575	X		
Hafnium	7440586	X		
Holmium	7440600	X		
Indium	7440746	X		
Iodine	7553562	X		
Iridium	7439885			X
Lanthanum	7439910	X		
Lithium	7439932			X
Neodymium	7440008	X		
Niobium	7440031	X		
Osmium	7440042	X		
Palladium	7440053	X		
Platinum	7440064		X	
Praseodymium	7440100	X		
Rhenium	7440155		X	
Rhodium	7440166	X		
Ruthenium	7440188	X		
Samarium	7440199	X		
Scandium	7440202	X		
Tantalum	7440257			X
Tellurium	13494809		X	
Terbium	7440279	X		
Thallium	7440280		X	
Thorium	7440291	X		
Thulium	7440304	X		
Tungsten	7440337		X	
Uranium	7440611	X		
Ytterbium	7440644		X	
Yttrium	7440655		X	
Zirconium	7440677		X	
<b>ORGANICS</b>				
Acenaphthylene	208968			X
Acetophenone	98862			X
Acrylonitrile	107131	X		
Aniline, 2,4,5-Trimethyl	137177	X		
Aramite	140578	X		
Benzathrone	82053	X		
Benzenethiol	108985	X		
Benzidine	92875	X		
Benzo(ghi)perylene	191242		X	
Benzonitrile, 3,5-Dibromo-4-Hydroxy-	1689845	X		
Beta-Naphthylamine	91598	X		
Biphenyl, 4-Nitro	92933	X		
Bis(2-Chloroethoxy) Methane	111911	X		
Bis(2-Chloroethyl) Ether	111444	X		

Table 6-5. Pollutants Not Selected as Pollutants of Concern for the Oils Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
Bis(2-Chloroisopropyl) Ether	108601	X		
Bromodichloromethane	75274	X		
Bromomethane	74839	X		
Chloroacetonitrile	107142	X		
Chloroethane	75003	X		
Chloromethane	74873	X		
Cis-1,3-Dichloropropene	10061015	X		
Crotonaldehyde	4170303	X		
Crotoxyphos	7700176	X		
Di-N-Octyl Phthalate	117840			X
Di-N-Propylnitrosamine	621647	X		
Dibenzo(a,h)anthracene	53703	X		
Dibromochloromethane	124481	X		
Dibromomethane	74953	X		
Diethyl Ether	60297			X
Dimethyl Phthalate	131113			X
Dimethyl Sulfone	67710	X		
Diphenylamine	122394			X
Diphenyldisulfide	882337	X		
Ethane, Pentachloro-	76017	X		
Ethyl Cyanide	107120	X		
Ethyl Methacrylate	97632	X		
Ethyl Methanesulfonate	62500	X		
Ethylenethiourea	96457	X		
Hexachlorobenzene	118741	X		
Hexachlorobutadiene	87683		X	
Hexachlorocyclopentadiene	77474	X		
Hexachloroethane	67721	X		
Hexachloropropene	1888717	X		
Indeno(1,2,3-CD)pyrene	193395	X		
Iodomethane	74884	X		
Isobutyl Alcohol	78831		X	
Isophorone	78591			X
Isosafrole	120581	X		
Longifolene	475207	X		
M+P Xylene	179601231		X	
Malachite Green	569642	X		
Mestranol	72333	X		
Methapyrilene	91805	X		
Methyl Methacrylate	80626	X		
Methyl Methanesulfonate	66273	X		
N-Nitrosodi-N-Butylamine	924163		X	
N-Nitrosodiethylamine	55185	X		
N-Nitrosodimethylamine	62759			X
N-Nitrosodiphenylamine	86306		X	
N-Nitrosomethylmethylaniline	10595956	X		
N-Nitrosomethylphenylamine	614006	X		
N-Nitrosomorpholine	59892		X	
N-Nitrosopiperidine	100754		X	
N-Octacosane	630024			X
N-Triaccontane	638686		X	
Nitrobenzene	98953	X		
O-Anisidine	90040	X		
O-Toluidine	95534			X
O-Toluidine, 5-Chloro-	95794	X		
O-Xylene	95476		X	

Table 6-5. Pollutants Not Selected as Pollutants of Concern for the Oils Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
P-Chloroaniline	106478	X		
P-Dimethylaminoazobenzene	60117	X		
P-Nitroaniline	100016	X		
Pentachlorobenzene	608935	X		
Pentachlorophenol	87865		X	
Perylene	198550	X		
Phenacetin	62442	X		
Phenol, 2-Methyl-4,6-Dinitro-	534521	X		
Phenothiazine	92842	X		
Pronamide	23950585	X		
Resorcinol	108463	X		
Safrole	94597	X		
Squalene	7683649	X		
Tetrachloromethane	56235			X
Thianaphthene	95158		X	
Thioacetamide	62555	X		
Thioxanthene-9-One	492228	X		
Toluene, 2,4-Diamino-	95807	X		
Trans-1,2-Dichloroethene	156605		X	
Trans-1,3-Dichloropropene	10061026	X		
Trans-1,4-Dichloro-2-Butene	110576	X		
Tribromomethane	75252	X		
Trichlorofluoromethane	75694			X
Triphenylene	217594			X
Vinyl Acetate	108054		X	
Vinyl Chloride	75014			X
1-Bromo-2-Chlorobenzene	694804	X		
1-Bromo-3-Chlorobenzene	108372	X		
1-Chloro-3-Nitrobenzene	121733	X		
1-Naphthylamine	134327	X		
1-Phenylnaphthalene	605027		X	
1,1-Dichloroethane	75343			X
1,1,1,2-Tetrachloroethane	630206	X		
1,1,2-Trichloroethane	79005	X		
1,1,2,2-Tetrachloroethane	79345		X	
1,2-Dibromo-3-Chloropropane	96128	X		
1,2-Dibromoethane	106934	X		
1,2-Dichlorobenzene	95501			X
1,2-Dichloropropane	78875	X		
1,2-Diphenylhydrazine	122667	X		
1,2,3-Trichlorobenzene	87616			X
1,2,3-Trichloropropane	96184	X		
1,2,3,Trimethoxybenzene	634366	X		
1,2,4,5-Tetrachlorobenzene	95943	X		
1,2,3,4-Diepoxybutane	1464535	X		
1,3-Butadiene, 2-Chloro	126998	X		
1,3-Dichloro-2-Propanol	96231	X		
1,3-Dichlorobenzene	541731		X	
1,3-Dichloropropane	142289	X		
1,3,5-Trithiane	291214			X
1,4-Dinitrobenzene	100254	X		
1,4-Naphthoquinone	130154	X		
1,5-Naphthalenediamine	2243621	X		
2-(Methylthio)Benzothiazole	615225	X		
2-Chloroethylvinyl Ether	110758	X		
2-Chloronaphthalene	91587	X		

Table 6-5. Pollutants Not Selected as Pollutants of Concern for the Oils Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
2-Chlorophenol	95578	X		
2-Hexanone	591786		X	
2-Isopropylnaphthalene	2027170			X
2-Methylbenzothioazole	120752	X		
2-Nitroaniline	88744	X		
2-Nitrophenol	88755			X
2-Picoline	109068		X	
2-Propen-1-Ol	107186	X		
2-Propenal	107028			X
2-Propenenitrile, 2-Methyl	126987	X		
2,3-Dichloroaniline	608275		X	
2,3-Dichloronitrobenzene	3209221	X		
2,3,4,6-Tetrachlorophenol	58902	X		
2,3,6-Trichlorophenol	933755	X		
2,4-Dichlorophenol	120832	X		
2,4-Dinitrophenol	51285	X		
2,4-Dinitrotoluene	121142	X		
2,4,5-Trichlorophenol	95954	X		
2,4,6-Trichlorophenol	88062	X		
2,6-Di-Tert-Butyl-P-Benzoinone	719222	X		
2,6-Dichloro-4-Nitroaniline	99309	X		
2,6-Dichlorophenol	87650	X		
2,6-Dinitrotoluene	606202	X		
3-Chloropropene	107051	X		
3-Methylcholanthrene	56495	X		
3-Nitroaniline	99092	X		
3,3'-Dichlorobenzidine	91941	X		
3,3'-Dimethoxybenzidine	119904	X		
4-Aminobiphenyl	92671	X		
4-Bromophenyl Phenyl Ether	101553	X		
4-Chloro-2-Nitroaniline	89634	X		
4-Chlorophenylphenyl Ether	7005723	X		
4-Nitrophenol	100027	X		
4,4'-Methylene-Bis(2-Chloroaniline)	101144	X		
4,5-Methylene-Phenanthrene	203645			X
5-Nitro-O-Toluidine	99558	X		
7,12-Dimethylbenz(a)anthracene	57976	X		

Table 6-6. Pollutants Not Selected as Pollutants of Concern for the Organics Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
<b>CLASSICALS OR CONVENTIONALS</b>				
Hexavalent Chromium	18540299	X		
Total Phenols	C-020	X		
Total Phosphorus	14265442	X		
<b>METALS</b>				
Beryllium	7440417	X		
Bismuth	7440699	X		
Cadmium	7440439		X	
Cerium	7440451	X		
Dysprosium	7429916	X		
Erbium	7440520	X		
Europium	7440531	X		
Gadolinium	7440542	X		
Gallium	7440553		X	
Germanium	7440564	X		
Gold	7440575	X		
Hafnium	7440586		X	
Holmium	7440600	X		
Indium	7440746		X	
Iridium	7439885		X	
Lanthanum	7439910	X		
Lutetium	7439943	X		
Magnesium	7439954		X	
Mercury	7439976	X		
Neodymium	7440008	X		
Niobium	7440031	X		
Palladium	7440053	X		
Platinum	7440064		X	
Praseodymium	7440100	X		
Rhenium	7440155	X		
Rhodium	7440166	X		
Ruthenium	7440188	X		
Samarium	7440199	X		
Scandium	7440202	X		
Selenium	7782492	X		
Silver	7440224	X		
Tantalum	7440257	X		
Tellurium	13494809	X		
Terbium	7440279	X		
Thallium	7440280	X		
Thorium	7440291	X		
Thulium	7440304	X		
Tungsten	7440337	X		
Uranium	7440611	X		
Vanadium	7440622		X	
Ytterbium	7440644	X		
Yttrium	7440655		X	
Zirconium	7440677	X		
<b>ORGANICS</b>				
Acenaphthene	83329	X		
Acenaphthylene	208968	X		
Acrylonitrile	107131	X		
Alpha-Terpineol	98555	X		
Aniline, 2,4,5-Trimethyl	137177	X		
Anthracene	120127	X		
Aramite	140578	X		

Table 6-6. Pollutants Not Selected as Pollutants of Concern for the Organics Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
Benzathrone	82053	X		
Benzenethiol	108985	X		
Benzidine	92875	X		
Benzo(a)anthracene	56553	X		
Benzo(a)pyrene	50328	X		
Benzo(b)fluoranthene	205992	X		
Benzo(ghi)perylene	191242	X		
Benzo(k)fluoranthene	207089	X		
Benzonitrile, 3,5-Dibromo-4-Hydroxy-	1689845	X		
Benzyl Alcohol	100516	X		
Beta-Naphthylamine	91598	X		
Biphenyl	92524	X		
Biphenyl, 4-Nitro	92933	X		
Bis(2-Chloroethoxy) Methane	111911	X		
Bis(2-Chloroethyl) Ether	111444	X		
Bis(2-Chloroisopropyl) Ether	108601	X		
Bis(2-Ethylhexyl)Phthalate	117817	X		
Bromomethane	74839	X		
Butyl Benzyl Phthalate	85687	X		
Carbazole	86748	X		
Chloroacetonitrile	107142	X		
Chloroethane	75003	X		
Chloromethane	74873	X		
Chrysene	218019	X		
Cis-1,3-Dichloropropene	10061015	X		
Crotonaldehyde	4170303	X		
Crotoxyphos	7700176	X		
Di-N-Butyl Phthalate	84742	X		
Di-N-Octyl Phthalate	117840	X		
Di-N-Propylnitrosamine	621647	X		
Dibenzo(a,h)anthracene	53703	X		
Dibenzofuran	132649	X		
Dibenzothiophene	132650	X		
Dibromochloromethane	124481	X		
Dibromomethane	74953	X		
Diethyl Ether	60297		X	
Diethyl Phthalate	84662	X		
Dimethyl Phthalate	131113	X		
Diphenyl Ether	101848	X		
Diphenylamine	122394	X		
Diphenyldisulfide	882337	X		
Ethyl Cyanide	107120	X		
Ethyl Methacrylate	97632	X		
Ethyl Methanesulfonate	62500	X		
Ethylbenzene	100414		X	
Fluoranthene	206440	X		
Fluorene	86737	X		
Hexachlorobenzene	118741		X	
Hexachlorobutadiene	87683		X	
Hexachlorocyclopentadiene	77474	X		
Hexachloropropene	1888717	X		
Indeno(1,2,3-CD)pyrene	193395	X		
Iodomethane	74884	X		
Isobutyl Alcohol	78831	X		
Isosafrole	120581	X		
Longifolene	475207	X		

Table 6-6. Pollutants Not Selected as Pollutants of Concern for the Organics Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
Malachite Green	569642	X		
Mestranol	72333	X		
Methapyrilene	91805	X		
Methyl Methacrylate	80626	X		
Methyl Methanesulfonate	66273	X		
N-Decane	124185	X		
N-Docosane	629970	X		
N-Dodecane	112403	X		
N-Eicosane	112958	X		
N-Hexacosane	630013	X		
N-Hexadecane	544763	X		
N-Nitrosodi-N-Butylamine	924163	X		
N-Nitrosodiethylamine	55185	X		
N-Nitrosodimethylamine	62759		X	
N-Nitrosodiphenylamine	86306	X		
N-Nitrosomethylethylamine	10595956	X		
N-Nitrosomethylphenylamine	614006	X		
N-Nitrosomorpholine	59892	X		
N-Nitrosopiperidine	100754	X		
N-Octacosane	630024	X		
N-Octadecane	593453	X		
N-Tetracosane	646311		X	
N-Tetradecane	629594	X		
N-Triacontane	638686	X		
Naphthalene	91203	X		
Nitrobenzene	98953	X		
O-Anisidine	90040	X		
O-Toluidine	95534	X		
O-Toluidine, 5-Chloro-	95794	X		
P-Chloroaniline	106478	X		
P-Cymene	99876	X		
P-Dimethylaminoazobenzene	60117	X		
P-Nitroaniline	100016	X		
Pentachlorobenzene	608935	X		
Pentamethylbenzene	700129	X		
Perylene	198550	X		
Phenacetin	62442	X		
Phenanthrene	85018	X		
Phenol, 2-Methyl-4,6-Dinitro-	534521	X		
Phenothiazine	92842	X		
Pronamide	23950585	X		
Pyrene	129000	X		
Resorcinol	108463	X		
Safrole	94597	X		
Squalene	7683649	X		
Styrene	100425	X		
Tetrachlorocatechol	1198556		X	
Tetrachloroguaiacol	2539175	X		
Thianaphthene	95158	X		
Thioacetamide	62555	X		
Thioxanthe-9-One	492228	X		
Toluene, 2,4-Diamino-	95807	X		
Trans-1,3-Dichloropropene	10061026	X		
Trans-1,4-Dichloro-2-Butene	110576	X		
Tribromomethane	75252		X	
Trichlorofluoromethane	75694		X	

Table 6-6. Pollutants Not Selected as Pollutants of Concern for the Organics Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
Trichlorosyringol	2539266		X	
Triphenylene	217594	X		
Tripropyleneglycol Methyl Ether	20324338	X		
Vinyl Acetate	108054	X		
1-Bromo-2-Chlorobenzene	694804	X		
1-Bromo-3-Chlorobenzene	108372	X		
1-Chloro-3-Nitrobenzene	121733	X		
1-Methylfluorene	1730376	X		
1-Methylphenanthrene	832699	X		
1-Naphthylamine	134327	X		
1-Phenylnaphthalene	605027	X		
1,2-Dibromo-3-Chloropropane	96128	X		
1,2-Dichloropropane	78875		X	
1,2-Diphenylhydrazine	122667	X		
1,2,3-Trichlorobenzene	87616	X		
1,2,3-Trimethoxybenzene	634366	X		
1,2,4-Trichlorobenzene	120821	X		
1,2,4,5-Tetrachlorobenzene	95943	X		
1,2:3,4-Diepoxybutane	1464535	X		
1,3-Butadiene, 2-Chloro	126998	X		
1,3-Dichloro-2-Propanol	96231	X		
1,3-Dichlorobenzene	541731	X		
1,3,5-Trithiane	291214	X		
1,4-Dichlorobenzene	106467	X		
1,4-Dinitrobenzene	100254	X		
1,4-Dioxane	123911		X	
1,4-Naphthoquinone	130154	X		
1,5-Naphthalenediamine	2243621	X		
2-(Methylthio)Benzothiazole	615225	X		
2-Chloroethylvinyl Ether	110758	X		
2-Chloronaphthalene	91587	X		
2-Chlorophenol	95578	X		
2-Hexanone	591786	X		
2-Isopropylnatphthalene	2027170	X		
2-Methylbenzothioazole	120752	X		
2-Methylnaphthalene	91576	X		
2-Nitroaniline	88744	X		
2-Nitrophenol	88755	X		
2-Phenylnaphthalene	612942	X		
2-Picoline	109068		X	
2-Propen-1-Ol	107186	X		
2-Propenal	107028	X		
2-Propenenitrile, 2-Methyl	126987	X		
2-Syringaldehyde	134963	X		
2,3-Benzofluorene	243174	X		
2,3-Dichloronitrobenzene	3209221	X		
2,3,6-Trichlorophenol	933755		X	
2,4-Dichlorophenol	120832		X	
2,4-Dinitrophenol	51285	X		
2,4-Dinitrotoluene	121142	X		
2,6-Di-Tert-Butyl-P-Benzoquinone	719222	X		
2,6-Dichloro-4-Nitroaniline	99309	X		
2,6-Dichlorophenol	87650	X		
2,6-Dinitrotoluene	606202	X		
3-Chloropropene	107051	X		
3-Methylcholanthrene	56495	X		

Table 6-6. Pollutants Not Selected as Pollutants of Concern for the Organics Subcategory

Pollutant	Cas No.	Never Detected	Detected <10 x MDL	Detected in <10% of influent samples
3-Nitroaniline	99092	X		
3,3'-Dichlorobenzidine	91941	X		
3,3'-Dimethoxybenzidine	119904	X		
3,4,5-Trichloroguaiacol	57057837			X
3,5-Dichlorocatechol	13673922	X		
3,6-Dimethylphenanthrene	1576676	X		
4-Aminobiphenyl	92671	X		
4-Bromophenyl Phenyl Ether	101553	X		
4-Chloro-2-Nitroaniline	89634	X		
4-Chloro-3-Methylphenol	59507			X
4-Chloroguaiacol	16766306	X		
4-Chlorophenylphenyl Ether	7005723	X		
4-Nitrophenol	100027	X		
4,4'-Methylene-Bis(2-Chloroaniline)	101144	X		
4,5-Dichlorocatechol	3428248			X
4,5-Methylene-Phenanthrene	203645	X		
4,6-Dichloroguaiacol	16766317	X		
5-Nitro-O-Toluidine	99558	X		
5,6-Dichlorovanillin	18268694	X		
7,12-Dimethylbenz(a)anthracene	57976	X		

**POLLUTANTS OF CONCERN FOR  
THE METALS SUBCATEGORY** **6.2**

Wastewaters treated at CWT facilities in the metals subcategory contain a range of conventional, toxic, and non-conventional pollutants. EPA analyzed influent samples for 320 conventional, classical, metal, and organic pollutants. EPA identified 78 pollutants of concern, including 43 metals, 17 organics, and 3 conventional pollutants as presented in Table 6-1. EPA excluded 242 pollutants from further review because they did not pass the pollutant of concern criteria. Table 6-4 lists these pollutants, including 178 pollutants that were never detected at any sampling episode, 54 pollutants that were detected at a concentration less than ten times the method detection limit, and 10 pollutants that were present in less than ten percent of the influent samples. EPA selected only 25 percent of the list of pollutants analyzed as pollutants of concern, and as expected, the greatest number of pollutants of concern in the metals subcategory were found in the metals group.

Facilities in the metals subcategory had the highest occurrence and broadest range of metals detected in their raw wastewater. The sampling identified a total of 43 metals above treatable levels, compared to 32 metals in the oils subcategory, and 25 metals in the organics subcategory. Maximum metals concentrations in the metals subcategory were generally at least an order of magnitude higher than metals in the oils and organics subcategories, and were often two to three orders of magnitude greater. Wastewaters contained significant concentrations of common non-conventional metals such as aluminum, iron, and tin. In addition, given the processes generating these wastewaters, waste receipts in this subcategory generally contained toxic heavy metals. Toxic metals found in the highest concentrations were cadmium, chromium, cobalt, copper, nickel, and zinc.

EPA detected three conventional pollutants ( $BOD_5$ , TSS, oil and grease) and fifteen classical pollutants above treatable levels in the metals subcategory, including hexavalent chromium, which was not found in either the oils or organics

subcategories. Concentrations for total and amenable cyanide, chloride, fluoride, nitrate/nitrite, TDS, TSS, and total sulfide were significantly higher for metals facilities than for facilities in the other subcategories.

While sampling showed organic pollutants at selected facilities in the metals subcategory, these were not typically found in wastewaters resulting from this subcategory. Many metals facilities have placed acceptance restrictions on the concentration of organic pollutants allowed in the off-site wastestreams. Of the 217 organic pollutants analyzed in the metals subcategory, EPA only detected 17 above treatable levels, as compared to more than 72 in the oils subcategory and 60 in the organics subcategory. However, of the organic compounds detected in the metals subcategory, three, specifically, dibromochloromethane, tribromomethane, and n-nitrosomorpholine were not detected in any other subcategory. EPA sampling detected all other organic pollutants in the metals subcategory at relatively low concentrations, as compared to the oils and organics subcategories.

#### **POLLUTANTS OF CONCERN FOR THE OILS SUBCATEGORY** 6.3

As detailed in Chapters 2 and 12, EPA does not have data to characterize raw wastewater for the oils subcategory. Therefore, EPA based its influent wastewater characterization for this subcategory on an evaluation of samples obtained following the initial gravity separation/emulsion breaking step. EPA analyzed these samples for 322 conventional, classical, metal, and organic pollutants. EPA identified 120 pollutants of concern, including 72 organics, 32 metals, and 3 conventional pollutants presented in Table 6-2. EPA eliminated 202 pollutants after applying its traditional criteria for regulating pollutants. Table 6-5 lists these pollutants, including 145 pollutants that were never detected at any sampling episode, 31 pollutants that were

detected at a concentration less than ten times the method detection limit, and 26 pollutants that were present in less than ten percent of the influent samples. EPA selected nearly 40 percent of the list of pollutants analyzed as pollutants of concern, the majority of which were organic pollutants.

Facilities in the oils subcategory had the broadest spectrum of pollutants of concern in their raw wastewater with 3 conventional pollutants, 13 classical pollutants, and more than 100 organics and metals. As expected, oil and grease concentrations in this subcategory were significantly higher than for the other subcategories, and varied greatly from one facility to the next, ranging from 40 mg/L to 180,000 mg/L (see Table 6-2) after the first stage of treatment. The concentrations of ammonia,  $BOD_5$ , COD, TOC, total phenols, and total phosphorus were also higher for facilities in the oils subcategory.

Wastewaters contained significant concentrations of both non-conventional and toxic metals such as aluminum, boron, cobalt, iron, manganese, and zinc. EPA's sampling data show most pollutant of concern metals were detected at higher concentrations in the oils subcategory than those found in the organics subcategory, but at significantly lower concentrations than those found in the metals subcategory. Germanium was the only metal detected at a treatable level in the oils subcategory but not in the other two subcategories.

Of the 72 organic pollutants detected above treatable levels in the oils subcategory, 40 were not present in the other two subcategories. Twenty four pollutants of concern organics were common to both the oils and organics subcategories, but more than half of these organics were detected in oily wastewater at concentrations two to three orders of magnitude higher than those found in the organics

subcategory wastewaters. Organic pollutants found in the highest concentrations were straight chain hydrocarbons such as n-decane and n-tetradecane, and aromatics such as naphthalene and bis(2-ethylhexyl)phthalate. EPA also detected polycyclic aromatic hydrocarbons, such as benzo(a)pyrene in the wastewaters of oils facilities.

Some industry representatives questioned EPA's sampling results and claimed that benzo(a)pyrene would only be found at oils facilities which treat hazardous wastes. EPA reviewed the literature which confirmed that benzo(a)pyrene may be present in any waste that comes in contact with oil, coal tar, or petroleum products. Tables 6-7 and 6-8 present concentrations of benzo(a)pyrene in various industrial products, some of which are likely to be encountered at oils subcategory CWTs.

Though the concentration of benzo(a)pyrene varies widely across the examined sources, the information in the tables indicates that carbonaceous combustion products are a source of benzo(a)pyrene. Because many of these used products are treated at both hazardous and non-hazardous CWT oils facilities, benzo(a)pyrene may be detected at either hazardous or non-hazardous CWT facilities.

Table 6-7. Concentration of Benzo(a)pyrene in Industrial Products (Osborne & Crosby, 1987)

Sample	Benzo(a)pyrene Content
Carbon black	2-40 µg/g
Coal-tar pitch	1.3-2.4 %
Asphalt	0.1-27 mg/kg
Creosote	22 mg/kg
Regular gasoline	0.21 mg/L
Premium gasoline	0.48 mg/L
API Reference oils	0.6-44 mg/kg
Diesel oil	0.03 mg/kg
Fuel oil	0.03 mg/kg
Heavy lubricating oils	1.2-4.2 mg/kg
Light lubricating oils	6.0-7.0 mg/kg

Table 6-8. Concentration of Benzo(a)pyrene in Japanese Diesel Oils (Osborne & Crosby, 1987)

Oil Type	Aromatic Carbon Content (%)	Boiling Range (°C)	Benzo(a)pyrene Content (mg/L)
Commercial gas oil	13.0	184-382	1.9
Aromatic-rich gas oil	36.0	181-331	6.7
Coal-liquified oil	64	205-382	64.5

**POLLUTANTS OF CONCERN FOR  
THE ORGANICS SUBCATEGORY****6.4**

Wastewaters treated at CWT facilities in the organics subcategory contain a range of conventional, toxic, and non-conventional pollutants. EPA analyzed influent samples for 336 classical, metal, and organic pollutants. EPA identified 97 pollutants of concern, including 60 organic pollutants, 25 metals, and 3 conventional pollutants presented in Table 6-3. EPA excluded 241 pollutants because they did not pass the pollutant of concern criteria. Table 6-6 presents these pollutants, including 214 pollutants that were never detected at any sampling episode, and 27 pollutants that were detected at a concentration less than ten times the method detection limit. EPA determined that only 30 percent of the list of pollutants analyzed were pollutants of concern.

As expected, wastewaters contained significant concentrations of organic parameters, many of which were highly volatile. However, although EPA analyzed wastewater samples in the organics subcategory for a more extensive list of organics than samples in the metals or oils subcategories, EPA selected only 20 percent of those organic pollutants analyzed as pollutants of concern. EPA selected a total of 60 organics above treatable levels in the influent samples analyzed. Thirty-six of these organics were present in the organics subcategory but not in the oils subcategory. EPA determined the remaining 24 organics were pollutants of concern for both the organics and oils subcategories. EPA's sampling detected only six of these organic pollutants at higher concentrations at organics facilities, specifically, chloroform, methylene chloride, o-cresol, tetrachloroethene, trichloroethene, and 1,2-dichloroethane. EPA found only 9 classical pollutants were pollutants of concern in the organics subcategory, and most were detected at lower concentrations than those found in the metals and oils subcategories.

The sampling detected a total of 25 metals above treatable levels, but these were present at concentrations significantly lower than in the metals subcategory. EPA's assessment showed that only three pollutant of concern metals (barium, calcium, and strontium) were detected at concentrations above those found in the oils subcategory.

**REFERENCES****6.5**

Osborne and Crosby, Cambridge Monographs on Cancer Research: Benzopyrenes, Cambridge University Press; New York, NY; 1987.